

## U.S. ENVIRONMENTAL PROTECTION AGENCY

## REGION X

1200 SIXTH AVENUE  
SEATTLE, WASHINGTON 98101REPLY TO  
ATTN OF:

M/S 525

March 11, 1985

Dear Sir or Madam:

Today's release of the Western Processing Feasibility Study begins a 30-day public comment period. This is the opportunity to provide opinions and ideas to the United States Environmental Protection Agency (EPA) and the Washington Department of Ecology (WDOE) on what remedial actions should be taken on and around the Western Processing site. The opportunity is being provided to the general public, neighboring property owners, governmental agencies, the City of Kent, the potentially responsible parties (the owner/operators of Western Processing, and the generators and transporters who took waste materials to Western Processing) and other interested groups.

A number of activities and documents are available to help you understand the situation and the options EPA and its contractor, CH2M Hill, have developed. The enclosed Fact Sheet provides a very brief summary of the results of the Feasibility Study. A more detailed Executive Summary is enclosed or is available upon request. The two volume 650 page Feasibility Study contains a more detailed write-up of the conclusions, as well as information on the methods used and analysis undertaken to come to these conclusions.

A series of presentations and workshops have been scheduled for Thursday evenings at 7 p.m. at the Kent City Hall Council Chambers. The first, and most important, will be on March 21, 1985. This presentation will provide an overview of the entire Feasibility Study, and will focus on the conclusions. In addition, we plan to have workshops on the next two Thursdays, March 28 and April 4, to discuss specific topics of interest regarding the Western Processing Feasibility Study. The time between now and these workshops can be used by you to suggest specific topics you would like discussed, questions you would like addressed, or information you require. Please submit your ideas for these workshops as soon as possible to the EPA contacts at the address or phone numbers listed below. As much as possible, we would like to select specific topics ahead of time so that we can provide an expert person on that issue. Some possible topics may be: the characteristics and complexities of the groundwater system under Western Processing; other alternatives you may have developed or would like to present; the characteristics of different types of contamination found on or near Western Processing; or how the different technical components of a particular example alternative in the Feasibility Study complement each other.

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While EPA will be taking notes at these meetings, it will be important to submit your comments in writing directly to EPA, particularly if your comments are complex or technical. All comments will be very important in helping EPA and WDOE to select a particular technical remedial action.

EPA and WDOE, and thus the Feasibility Study, do not have a selected or favorite alternative. Instead, because of the infinite number of possible alternatives, the Feasibility Study contains a series of example alternatives. Your comments, and EPA's and WDOE's final selected remedial action, may contain elements identical to or modified from the example alternatives.

When the comment period closes on April 10, 1985, the comments and issues raised during the comment period, along with the engineering, technical, public health, environmental, and cost information presented in the Feasibility Study, will be used to develop the government's negotiating position for the second and final phase of remedial action at the Western Processing site. The government (EPA, WDOE, and the U.S. Department of Justice) will then begin negotiations with the potentially responsible parties' group called the Western Processing Coordinating Committee. EPA and WDOE will not be able to discuss the content of on-going negotiations. However, we will attempt to keep you informed of any delays in the process.

If agreement is reached between the government and the potentially responsible parties, a second public comment period will be arranged by the U.S. Department of Justice to allow comment on the proposed consent decree. A consent decree is a negotiated agreement which, when approved by the court, will have the authority of a court order. The Phase II consent decree and the negotiated remedial action would become final after the court has reviewed the documents and the comments. The remedial action will then be implemented by the potentially responsible parties. If agreement is not reached between the government and the potentially responsible parties, EPA and WDOE will make a decision on the selected alternative, based in part on public comments received, and will provide public notice of the alternative we will endeavor to have constructed.

For your information, Superfund actions are not subject to the Environmental Impact Statement (EIS) requirements of the National Environmental Policy Act. However, the Feasibility Study and this public comment period are the functional equivalent of a federal EIS. This Feasibility Study will also be considered as a document possibly to be incorporated by reference into the SEPA review process.

Copies of the Feasibility Study, Executive Summary, and many other reports referenced in the Feasibility Study or issued earlier on Western Processing are available at the following libraries:

City of Kent Public Library  
Reference Desk  
232 South Fourth  
Kent, Washington 98032  
(206) 872-3330

U.S. EPA Regional Library  
12th Floor  
1200 Sixth Avenue  
Seattle, Washington 98101  
(206) 442-1289

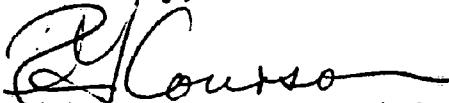
Comment letters, questions, and other requests (such as for workshop topics or proposed agendas, or for copies of the executive summary) should be directed to:

Judi Schwarz or Norma Lewis  
Superfund Branch M/S 525  
U. S. Environmental Protection Agency  
1200 Sixth Avenue  
Seattle, Washington 98101  
(206) 442-2684 or 442-7215

A limited number of copies of the Feasibility Study are also available from the EPA contacts listed above.

We look forward to hearing from you before April 10, 1985.

Sincerely,

  
Robert G. Courson, Chief  
Superfund Branch

Enclosure

March 1985

## FACT SHEET

### WESTERN PROCESSING SUPERFUND FEASIBILITY STUDY FOR SUBSURFACE REMEDIAL ACTIONS

The Western Processing property is a 13-acre parcel located in the Green River Valley at 7215 South 196th Street, Kent, Washington. The Western Processing Company, Inc. conducted industrial waste processing reclamation and storage activities in 11 of those acres between 1961 and 1983. Approximately 300 businesses and other entities brought their waste to Western Processing during this time. The waste reclamation and storage activities at Western Processing resulted in the contamination of site soils and, subsequently, of groundwater and surface water on and near the Western Processing property. Since the early 1970's, several agencies including the Kent Fire Department, Metro, Washington Department of Ecology (WDOE) and EPA have investigated problems at the site. The site was added to the Comprehensive Environmental Response, Compensation, and Liability Act (Superfund) National Priorities List in 1982.

The site looks very different today than in 1982. Administrative orders requiring the ceasing of waste handling operations have been issued. Under three separate remedial actions, the eleven acres have been virtually cleared of above ground waste materials and contaminated facilities. Stormwater discharges are controlled from the site. Two of the remedial actions were done by EPA and WDOE. In addition, a group of generators and transporters (also known as the potentially responsible parties or PRPs) who had been among those who took materials to the site conducted surface remedial actions under a consent decree. The sealed and overpacked drums containing dioxin contaminated material will still be removed by the PRPs under the Phase I partial consent decree. The fire, explosion, and leak and spill hazards that had existed have been completely abated.

However, investigations of the soil, groundwater and surface water on and around the Western Processing site over the past few years have disclosed that there is still a very large amount of uncontrolled hazardous materials out there. The nature and extent of this contamination, the risks and endangerments to public health and the environment posed by this contamination, and the remedial measures that may be taken to reduce or eliminate these hazards are the main content of the Western Processing Feasibility Study.

#### The Nature and Extent of Contamination

The nature and extent of contamination on and off Western Processing is a function of the type of materials which were released on the site and the pathways by which those materials were able to move. Each contaminants mobility or ability or lack of ability to dissolve into, and move with, water, greatly affects the extent of contamination of that chemical.

EPA has established a list of 129 priority pollutants which encompasses a broad range of mobilities and types of public health and environmental hazards. The presence of any of these pollutants in concentrations above background levels may be considered a problem. Approximately 90 of these priority pollutants were found in the soil or groundwater on and off the Western Processing site, or in Mill Creek. (This data in an uninterpreted form has all been released in the Remedial Investigation Report (December 1984) or earlier.) In the Feasibility Study, sixteen of these compounds were selected as indicators to characterize the contamination on and off the Western Processing property. These indicator compounds include metals as well as representatives of all classes of organic priority pollutant compounds.

Over 95% of the contamination at Western Processing is located in the top 15 feet. In the top 6 feet, all the contamination is located in the soils since this is above the water table. In the saturated zone, the contamination is located in both the groundwater and the soils. Contamination in the soils can be leached into the groundwater by rainfall and groundwater movement.

The groundwater contamination has not spread significantly from Western Processing. The highest concentrations of contaminated groundwater are directly under the property. Most of the groundwater as far down 50 or 60 feet below the surface will discharge into Mill Creek adjacent to the site, or into the East Drain, which then flows into Mill Creek. (See Figure 1). The lateral extent of the groundwater contamination is bounded by these waterways. No present or proposed public water supply wells are threatened by this contamination.

Most of the soil contamination is immediately below the site or adjacent to the site along water migration pathways. The highest levels (maximum concentrations) of contamination are generally on the Western Processing property, and within the top 6 to 9 feet. Off-property contamination present because of Western Processing activities include areas to the north of the site (former surface water drainage across S. 196th Street) and to the west between the Western Processing property line and Mill Creek (former surface and subsurface water drainages.)

The conditions in Mill Creek support the idea that it has received most of the contamination that has left the Western Processing site over the years. The concentrations of metals in the stream water and sediments increased many times as Mill Creek flows by Western Processing. While the surface water discharges from the Western Processing property itself has ceased, contaminated groundwater is still adding pounds of zinc and other priority pollutants to the creek every day.

### Endangerment Assessment

For carcinogens, the risks to human health are calculated by using a mathematical model that estimates the increased probability of developing cancer for someone who ingests (eats or drinks) the soils or water from Western Processing site over a long period. This is referred as the excess lifetime cancer risk. In general, this presents an over-estimate of the human health risk posed. For non-carcinogens, there are a few legally enforceable standards (such as federal or state drinking water standards), as well as other criteria such as published guidelines that calculate the amount of a particular chemical that can be ingested without harm.

Assuming that a person works on the site for 40 years, ingestion of the on-site soils up to 12 feet deep would lead to a maximum excess lifetime cancer risk of  $2 \times 10^{-4}$  (2 people out of 10,000). The surface soils and all off-property areas showed a lower excess lifetime cancer risk. Again for the worker scenario, ingestion of contaminated groundwater from under the site is estimated to lead to a maximum excess lifetime cancer risk of 0.2 ( $2 \times 10^{-1}$ ). However, it is important to remember that no one is drinking this water. Organic compounds contribute to most of this excess lifetime cancer risk.

While organic priority pollutant contamination in Mill Creek does not appear to pose a threat to human health based on recreational use, the water in Mill Creek near and downstream of Western Processing is likely to be toxic to a wide variety of aquatic organisms. Concentrations of several dissolved metals exceed the ambient water quality criteria concentrations for the protection of freshwater aquatic organisms by several orders of magnitude. Sediments in Mill Creek are also contaminated with priority pollutant metals. The concentrations of organic contaminants in Mill Creek do not exceed the ambient water quality criteria for the protection of freshwater aquatic organisms.

### Example Remedial Action Alternatives

The Feasibility Study contains seven example alternatives which were developed to mitigate the problems identified in the nature and extent of contamination and the endangerment assessments. The example alternatives include a No Action alternative, and an alternative which has been proposed by the PRPs. While these may all be feasible alternatives, they are called example alternatives because there are an infinitely large number of alternatives, particularly when the possible areal extent of a particular component is considered.

The nature and extent of contamination on and off Western Processing is a function of the type of materials which were released on the site and the pathways by which those materials were able to move. Each contaminants mobility or ability or lack of ability to dissolve into, and move with,

water, greatly affects the extent of contamination of that chemical. This same mobility affects the relative success a particular example alternative has in removing that contaminant. Any of these alternatives will work if it is operated for long periods of time.

The example remedial action alternatives were evaluated and compared to determine their relative cost, and their technical feasibility, public health, and environmental aspects. Table 1 summarizes the seven alternatives and the evaluations. The numbered areas refer to the numbered parcels in Figure 1.

Table 1  
SUMMARY OF PUBLIC HEALTH, ENVIRONMENTAL,  
AND TECHNICAL EVALUATIONS

Example Alternative	Cost (Millions)		Public Health Aspects	Environmental Aspects	Technical Aspects	Other
	Capital	Present Worth				
1. No Action	-0-	-0-	<p>On-property contamination (soils up to 12 feet deep) would continue to have potential maximum lifetime excess cancer risk (worker scenario) of <math>5 \times 10^{-4}</math>.</p> <p>Groundwater contamination from Western Processing would pose no threat to City of Kent or any other public water supply wellfields.</p> <p>The concentrations of organic and inorganic (metal) contaminants in the groundwater immediately below Western Processing exceed drinking water standards and Acceptable Daily Intake (ADI) levels. Ingestion of this groundwater over a 40-year period could lead to a maximum lifetime excess cancer risk (worker scenario) of <math>2 \times 10^{-4}</math>. However, the shallow aquifer is not used for water supply.</p> <p>Recreational use of Mill Creek would not pose a threat to human health.</p>	<p>Priority pollutant metal concentrations in Mill Creek downstream of Western Processing exceed chronic and acute ambient water quality criteria for aquatic organisms. These metal concentrations probably are and would continue to be toxic to a wide variety of aquatic organisms for hundreds of years.</p> <p>Priority pollutant organic concentrations in Mill Creek downstream of Western Processing do not exceed ambient water quality criteria for aquatic organisms.</p> <p>Sediments in Mill Creek contain high levels of priority pollutant metals.</p>	<p>Stormwater runoff would be in contact with contaminated soils and could carry contamination from the site onto adjacent areas and into Mill Creek.</p> <p>Infiltration would continue to leach contaminants from the unsaturated zone and carry them into the groundwater beneath the site.</p> <p>Contaminated groundwater from Western Processing would continue to discharge into Mill Creek at 50 to 70 gpm. Groundwater quality beneath the site would improve only very slowly (i.e., would require well beyond hundreds of years to achieve levels that would not adversely impact Mill Creek water quality).</p>	<p>Since 1983, three major response/remedial actions at Western Processing have stopped the discharge of contaminated runoff from the property to Mill Creek and removed waste materials and all structures from the surface of the property. These actions have eliminated potential hazards such as fires, explosions, and spills or leaks of waste materials.</p> <p>Future use of the site may be restricted by local authorities.</p>
2. Multimedia cap over Areas I and II, and a portion of Area V (provides two layers to prevent infiltration).  Controlled stormwater discharge from capped areas into Mill Creek  Groundwater pumping from Areas I, II, V and IX, onsite treatment and	<p>\$12.2</p> <p>Average annual operation &amp; maintenance cost/</p> <p>\$1.87</p>	\$30.2	<p>Would eliminate direct human and animal contact with contaminated surface soils in capped areas; however, all soils would remain in place.</p> <p>Drinking water standards and ADI's for organics in the groundwater under the site would be met in less than 15 years of pumping; SNARL's* for longer term use would not be met until after approxi-</p>	<p>Once pumping begins, Mill Creek waters would approach ambient water quality criteria or background (whichever is higher) for dissolved metal contaminants. Contaminants adhering to Mill Creek sediments and gradually leaching back into Mill Creek waters may delay achieving ambient water quality criteria or background.</p> <p>Would eliminate contaminated</p>	<p>The pumping system would eliminate discharge of contaminated groundwater to Mill Creek from Areas I, II, V, and IX during the pumping period.</p> <p>An extremely long pumping, treatment, and systems maintenance period would be required before water quality criteria, standards, or background levels could be met in</p>	<p>Would comply with RCRA technical requirements for closure as an existing land disposal facility.</p> <p>The groundwater extraction rate would be limited primarily by sewer system capacity and secondarily by the permeability of the soils.</p>

NOTE: See Figure 1 for locations of Areas I through X.

\*Suggested No Adverse Response Level(s).

Table 1  
(continued)

Example Alternative	Cost (Millions)		Public Health Aspects	Environmental Aspects	Technical Aspects	Other
	Capital	Present Worth				
2. Continued						
discharge into Metro system (100 gpm)			mately 60 years of pumping. Achieving federal drinking water standards in the groundwater for metal contaminants would be much more difficult. For example, it would require well beyond 100 years of pumping to achieve the cadmium standard, while the standard for lead may never be achieved.	stormwater discharges from capped area.	Mill Creek after the pumping system is turned off.	Future use of the capped areas would be prohibited.
Monitoring				Approximately 60 to 120 years of groundwater pumping would be required to reduce the concentrations of metals in the groundwater to levels that would not cause continued degradation of Mill Creek after the pumping system is turned off.	Cap would prevent infiltration and leaching of contaminants from the unsaturated zone in Areas I, II, and V into the groundwater. Effective cap lifetime in this application is not known.	
Health and safety plans and training prior to construction				Water quality problems in Mill Creek upstream of Western Processing, such as low dissolved oxygen levels, could continue to limit the habitat quality in Mill Creek.	Would require permanent access to some adjacent properties.	
					Would require a 12-month construction period. Cap would require relatively complex construction techniques.	
					Construction impacts could be mitigated by good construction practices, dust and runoff controls, and scheduling.	
3. Excavate all unsaturated soils (108,000 cubic yards) in Areas I and II and one foot in a portion of Area VIII, with disposal in new 11-acre, double-lined, RCRA on-site landfill.	\$18.3	\$31.9	Would eliminate direct human and animal contact with contaminated soils in capped areas and in Area VIII.	Would be identical to Example Alternative 2.	Would eliminate discharge of contaminated groundwater from Western Processing to Mill Creek while the pumping system is operating.	Would comply with RCRA technical standards for construction and closure of a new hazardous waste landfill.
Multimedia cap over landfill (Area I), Area II, and a portion of Area V (see Example Alternative 2).	Average annual O&M cost: \$1.69		Ability to achieve drinking water standards, ADI's, and SNARL's for organic and inorganic (metal) contaminants in groundwater beneath the site would be essentially identical to Example Alternative 2.		Like Example Alternative 2, an extremely long post-construction pumping, treatment, and site maintenance period would be required before water quality standards, criteria, or background levels could be met in Mill Creek after the pumping system is turned off.	Materials to be excavated have not yet been classified under the RCRA Dangerous Waste Regulations. No "Extremely Hazardous Waste" may be landfilled within Washington State.
Controlled stormwater discharged from capped areas into Mill Creek					Would require the same type of access as in Example Alternative 2.	Certain excavated materials such as PCBs, buried drums, and concentrated wastes would require special handling and possibly disposal procedures.
						Future use of the landfill and capped areas would be prohibited.

Table 1  
(continued)

Example Alternative	Cost (Millions)		Public Health Aspects	Environmental Aspects	Technical Aspects	Other
	Capital	Present Worth				
3. Continued						
Groundwater pumping around landfill and in portions of Areas II and V, onsite treatment, and discharge into Metro system (85 gpm)					Landfill liners and leachate collection system, when combined with the cap, would provide more protection from contaminant leaching from unsaturated zone into the groundwater than Example Alternative 2. Effective landfill and cap lifetime in this application is not known.	
Monitoring						
Health and safety plans and training prior to construction.					The landfill would be constructed in phases, with the excavated material stored on-site. This would be very difficult, but not impossible, to accomplish on the limited (11-acre) space on Area I.	
					Would require 48-month construction period. Cap and landfill would require relatively complex construction techniques.	
					The landfill and cap combination would isolate approximately 60 percent of both the zinc and total contamination in the soil.	
					Construction impacts could be mitigated by good construction practices, dust and run-off controls, and scheduling.	
4. The PRP Proposal*	\$45.4	\$48.9	Would eliminate direct human and animal contact with all surface soils in Area I.	Both during and after up to 5 years of pumping, Mill Creek water quality should be able to meet ambient water quality or background levels for all Western Processing-related contaminants. Water quality	Once the diversion barrier is installed, the discharge of contaminated groundwater to Mill Creek from Area I would be reduced by approximately 50 percent.	Does not address off-property contamination other than off-property contaminated groundwater (which could potentially be removed during the pumping program). Off-property remedial actions such as those
Excavate to variable depths (1' to 8') in Area I	Average annual O&M cost: \$1.9		ADI's, drinking water standards, and SWARL's for all except one indicator organic			

\*Summary prepared by PRPs.

Table 1  
(continued)

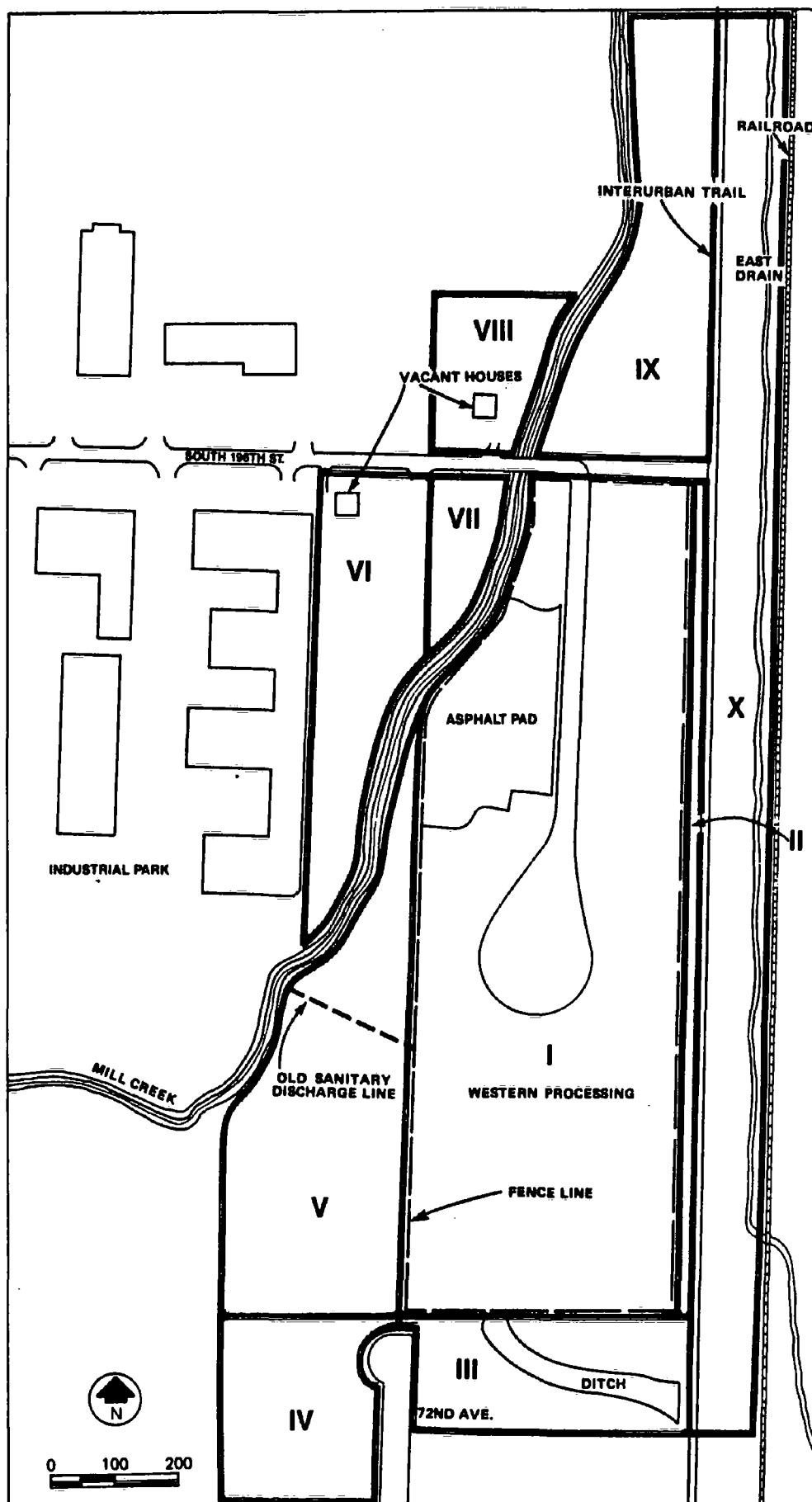
Example Alternative	Cost (Millions)		Public Health Aspects	Environmental Aspects	Technical Aspects	Other
	Capital	Present Worth				
4. Continued						
Offsite disposal of all excavated material (75,000 cubic yards) in a double-lined RCRA landfill			would be met within up to 5 years of pumping. Drinking water standards for metals could not be met even if the pumping program were extended indefinitely.	problems in the creek not related to Western Processing would continue.	Once pumping starts, the discharge of all contaminated groundwater from Area I would be prevented.	described in the other example alternatives would be one of the subjects of negotiations.
Replace excavated material with imported fill					The potential for discharge of contaminated stormwater runoff from Area I would be eliminated.	The groundwater extraction rate for this alternative is primarily limited by considerations related to reducing total groundwater treatment requirements and secondarily by soil conditions.
Diversion wall, 40 feet deep, inside the perimeter of Area I					The infiltration system that would operate during the pumping program would provide additional contaminant removal from the Area I unsaturated zone.	Double-lined landfill capacity is not currently available in the Northwest but will be available by mid-1985. The disposal costs were estimated to be \$100 per ton, but could vary substantially.
Groundwater pumping and stormwater infiltration in Area I for up to 5 years, onsite or off-site treatment, discharge to Metro or the Green River (100 gpm)					Would require 24-month construction period. Installation of diversion barrier would require relatively complex construction techniques.	Property would be suitable for future use. CO
Asphalt pavement over Area I upon completion of pumping					Construction impacts could be mitigated by good construction practices, dust and runoff controls, and scheduling.	
Monitoring					Would remove 70 percent of contaminants from the unsaturated zone including 88 percent of the zinc contamination in Area I.	
Health and safety plans and training prior to construction						
5. Excavate 15 feet in Areas I and II, 3 feet in a portion of Area V (including the old discharge line), 3 feet in Area IX, and 1 foot in a portion of Area VIII.	\$180.3	\$164.0	Would eliminate direct human and animal contact with all surface soils contaminated by Western Processing.	Excavation would be sufficient to allow the levels of metals in Mill Creek, including zinc, to permanently meet ambient water quality criteria or background, whichever is higher.	Most reliable and proven source control alternative. Approximately 95 percent of all contamination in soil would be removed by excavation. Would permanently eliminate contaminated groundwater discharges to Mill Creek from Areas I and II. The off-property excavations would reduce most average metal concentrations in soils to background.	Complies with RCRA technical requirements for closure as a storage facility.
	Average annual O&M Cost: \$0.1		Would reduce concentrations of organic contaminants in the groundwater beneath Areas I and II to or near drinking water standards, ADI's, and SNARL's for longer term use. Lead levels will be reduced	Would eliminate contaminated stormwater discharge to groundwater and Mill Creek.		Future property use would not be restricted.
Offsite disposal of all excavated material (300,000 cubic yards) in a double-lined RCRA landfill						Double-lined RCRA landfill capacity is not currently available in the Northwest but will be available by mid-1985. The disposal costs were estimated to be \$100 per ton but could vary substantially.

Table 1  
(continued)

Example Alternative	Cost (Millions)		Public Health Aspects	Environmental Aspects	Technical Aspects	Other
	Capital	Present Worth				
5. Continued						
Replace excavated material with imported soil			sufficiently to meet the drinking water standard; however, cadmium will not.	Water quality problems in Mill Creek not related to Western Processing would continue to limit habitat quality.	20 months of excavation over a 4-year construction period. Dewatering and groundwater treatment would continue during months when excavation is not occurring.	
Groundwater pumping for excavation, dewatering, onsite treatment, and discharge to the Metro system.					40,000 truck trips would be required to haul contaminated material away from and imported material to the site.	
Monitoring					Would require no operation or maintenance activities other than monitoring.	
Health and safety plans and training prior to construction.					No permanent access would be required.	
					Construction impacts could be mitigated by good construction practices, dust and run-off controls, transportation plans, and scheduling.	
6. Mill Creek No Action (After implementation of Example Alternative 2, 3, 4, or 5)	-0-	-0-	None. Mill Creek sediments do not pose a threat to human health.	The Mill Creek sediments, which are contaminated particularly with metals as a result of surface and groundwater discharges from Western Processing, would continue to be moved downstream (and eventually dispersed and diluted) by natural processes. Contaminants on sediments could adversely affect aquatic organisms by leaching into the water or by toxic effects on bottom dwelling organisms.	With an effective source control action (such as Example Alternative 2, 3, 4, or 5), it would take from 5 to 10 years for the contaminated sediments to be transported out of the local stream reach.  The source control would have to remain effective for the sediments to remain uncontaminated.	Modification of Mill Creek above Western Processing as part of Kent's drainage master plan could change the effectiveness of this example alternative, as could the introduction of upstream sources of contaminants.
				Avoids the adverse impacts of diversion and excavation.		
7. Mill Creek Sediment Removal (after implementation of Example Alternative 2, 3, 4, or 5)	\$1.3		None. Mill Creek sediments do not pose a threat to human health.	All contaminated sediment in a 2,300-foot reach of Mill Creek would be removed.	Monitoring of groundwater quality and flow near the creek would be necessary to determine the optimal time to	Modification of Mill Creek above Western Processing as part of Kent's drainage master plan could change the

Table 1  
(continued)

Example Alternative	Cost (Millions)		Public Health Aspects	Environmental Aspects	Technical Aspects	Other
	Capital	Present Worth				
7. Continued						
Excavate and dispose of sediment from the bed and banks of Mill Creek adjacent to and 1,300 feet downstream of Western Processing. (1,700 cubic yards)				Resuspension and downstream transport of contaminated sediments during construction would be prevented by diverting the creek around the reach to be excavated.	remove the contaminated sediments.  The source control would have to remain effective for the sediments to remain uncontaminated.	effectiveness of this example alternative, as could the introduction of upstream sources of contaminants.
Divert 2,300 feet of Mill Creek into a pump-and-pipe system during excavation (approximately one month during low flow season)				Excavation and diversion would temporarily destroy 2,300 feet of aquatic habitat.  Fish would not be able to pass through this part of Mill Creek during the one-month diversion.	One-month construction period.  No operation and maintenance would be required.	
Rehabilitate stream bed with gravel riffles and natural vegetation				After streambed excavation and rehabilitation, water quality problems upstream of Western Processing, such as low dissolved oxygen levels, could continue to limit habitat quality in Mill Creek.		
Monitoring						



**FIGURE 1**  
**ANALYSIS AREAS**